

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001103**Date Inspected:** 26-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG & Tower Fabrication**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Orthotropic Box Girder (OBG) and Tower Mock Up:

CWI Inspectors: Wu Ming Kai, Xu Xianping

The QA Inspector observed ZPMC welder Ms. He Yu Mei stencil 48625 is using welding procedure specification WPS-B-T-2132-3 to make flux cored fillet tack welds on OBG stiffener welds SP013-01-013 and SP013-01-014. The QA Inspector observed a welding current of approximately 270 amps, 28.8 volts and the base material has a minimum preheat temperature of 60° C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Wei Dashuai stencil 51246 is using welding procedure specification WPS-B-T-2132-2 to make flux cored fillet tack welds on OBG stiffener welds SP029-01-030 and SP029-01-031. The QA Inspector observed 1.4 mm diameter E71T-1 welding electrode with a welding current of approximately 285 amps, 28.5 volts and the base material has a minimum preheat of 60° C. Items observed by the QA Inspector appear to comply with project specifications.

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## WELDING INSPECTION REPORT

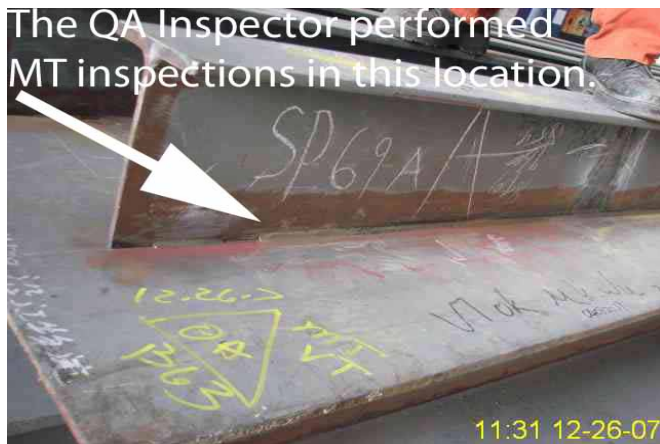
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The QA Inspector performed random visual inspections of portions of the stiffener plate welds on bottom plate SP010/PL71A which had previously been accepted by ZPMC Quality Control. This plate contains welds SP010-01-015 through SP010-01-028. The QA Inspector observed the bottom toe of the fillet weld on stiffener plate SP010-01-024 has an area of undercut that appears to be approximately 1 mm deep. The QA Inspector asked ZPMC QC Inspector Mr. Wu Ming Kai if he had observed the undercut condition. Mr. Kai measured the undercut area then informed the QA Inspector that this area of undercut had not been previously observed by QC and the undercut will need to be weld repaired. Following completion of the weld repair and QC acceptance of the weld repair area, the QA Inspector informed Mr. Kai side plate SP010/PL71A appears to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Li Schuliang stencil 48801 is using welding procedure specification WPS-345-SMAW-2G(2F)-Repair to make a weld repair of undercut on side plate SP010/PL71A stiffener plate weld SP010-01-024. The QA Inspector observed E7018 4mm diameter shielded metal arc welding electrodes with a current of approximately 175 amps and the base material had been preheated to a minimum of 160° C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector performed random magnetic particle inspections of portions of the stiffener plate welds on bottom plate SP010/PL070A which had previously been accepted by ZPMC Quality Control. This plate contains welds SP010-01-015 through SP010-01-028. The QA Inspector informed Mr. Kai side plate SP010/PL71A appears to comply with project specifications. See the photograph for additional information.



### Summary of Conversations:

See above for summary of conversations.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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**Inspected By:** Dawson,Paul

Quality Assurance Inspector

**Reviewed By:** Cochran,Jim

QA Reviewer